F. Rate Case Expense Amortization

1. Positions of the Parties

The only contested issue involving rate case expense concerns the amortization period for the Kankakee Division. It is well established that rate case expenses should be amortized "over the period of time that the subject tariffs are reasonably anticipated to be in effect." Illinois Bell Telephone Company, Docket 89-0033, Order at 78 (Nov. 9, 1989). Consistent with this principle, CIWC proposed to amortize rate case expense for the Kankakee Division over three years. In support of this proposal, Mr. Maurer testified that under the Company's Business Plan for 1998-2000, the Kankakee Division's next rate case is expected to be filed in the year 1999, with the result that the rates established for that Division in this case would have a two-year life. CIWC asserts that a three-year amortization period is a conservative estimate of the period of time that the Kankakee Division rates established in this case are reasonably anticipated to be in effect.

Mr. Fullington proposed a four-year amortization period for the Kankakee Division, based on the average period of time between the four rate filings made since 1985. In support of this approach, Staff indicated that it is attempting to match the amortization period of rate case expense more closely to the Company's actual experience. In response, CIWC asserted that the timing of the next Kankakee Division rate case filing will not be based on the average time between past rate case filings going back twelve years. Rather, as Mr. Fullington acknowledged, the timing of the next rate case will be dependent on future changes in operating expenses, revenues, rate base and capital costs. As previously discussed, the next Kankakee Division rate case is expected to be filed in 1999. Mr. Maurer testified that there is no reasonable basis to expect that the rates approved in this case will be in effect for four years.

The Company also contended that Staff's proposal in this case is contrary to the approach proposed by the Staff (and adopted by the Commission) in the last rate case for the Kankakee Division, Dockets 95-0307/95-0342. The Company contends, if the approach proposed by Staff in the those dockets were used to select an amortization period for the Kankakee Division in this case, the proper period would be two years. The Company submits that it is inappropriate for the Staff, in each case, to pick and choose among different methodologies based on different sets of historical data in order to produce a desired result. CIWC asserts that, in contrast to Staff, it has been consistent in its approach.

Mr. Fullington suggested that CIWC would not be harmed by the adoption of an amortization period which is too long because the Company will have the "opportunity to collect any unamortized rate case expense from this rate case in the next rate proceeding." CIWC agrees that, if a four-year amortization period is adopted, full recovery of rate case cost should be allowed in future rate cases. The Company, however, indicates that there are two reasons why Mr. Fullington is incorrect in

suggesting that CIWC and its customers would not be harmed if a four-year amortization period is adopted.

First, Mr. Maurer testified that, as a matter of ratemaking policy, it is appropriate to match, as closely as possible, the level of rate case expense to the life of the rates established. If this is done, it would be unnecessary to carry rate case costs from one case to the next. Second, both the Company and Staff have proposed in this proceeding to exclude unamortized rate case expense from rate base in accordance with recent Commission practice. According to CIWC, therefore, an unduly long amortization period would harm the Company because no return is provided on its investment in the unamortized balance of rate case expense.

2. Commission Conclusion

Based on the evidence, the Commission finds that CIWC's proposal to amortize the Kankakee Division's rate case expense over three years is reasonable and should be approved. The appropriate standard for establishing an amortization period is the time interval that the rates to be determined in this case are expected to be in effect. Illinois Bell, Docket 89-0033, Order at 78. Under the Company's Business Plan for the 1998-2000 period, the Kankakee Division's next rate case is expected to be filed in the year 1999. The three-year amortization period proposed by the Company is, therefore, a conservative estimate of the period of time that the Kankakee Division rates approved in this case are expected to be in effect. Moreover, in the Kankakee Division's last rate filing, CIWC proposed a three-year amortization period based on its 1996-1998 Business Plan, which indicated that a rate filing would be required in 1999. (See Dockets 95-0307/95-0342, Order at 20). The current proceeding was filed two years after the filing of those dockets. Accordingly, CIWC's actual experience also supports its current approach and the conclusion that three years is a reasonable and conservative estimate of the life of the rates to be approved in this case. Staff cites no evidence which indicates that there is a reasonable basis to expect that the rates approved in this case will be in effect for four years.

The Commission disagrees with Staff's contention that the Company and its ratepayers will not be harmed by the adoption of an amortization period which is too long. As previously discussed, the Commission finds no reasonable basis to expect that the rates approved in this case will be in effect for a period of time longer than three years. Adoption of Staff's proposed four-year amortization period would increase the possibility that the rates approved in the Kankakee Division's next rate case will have to be adjusted to reflect recovery of expenses from two past cases (Dockets 95-0307/95-0342 and this case), in addition to the expenses associated with the next case. The evidence also shows that an unduly long amortization period, such as that proposed by Staff, will harm the Company because it has no opportunity to recover the carrying costs associated with its investment in the unamortized balance of rate case expense.

G. Depreciation Expense

The Company and Staff agree on the pro forma test year levels of depreciation expense for the Kankakee, University Park-Water and Woodhaven-Sewer Divisions. The differences between their proposed levels of depreciation expense for the Vermilion County and Oak Run Divisions are attributable solely to the differences between their positions with respect to adjustments for plant additions in those two Divisions. As discussed previously in this Order, the Commission finds that the Company's proposed adjustments for plant additions should be approved in full. Accordingly, we find that the Company's proposed levels of the depreciation expense also should be approved.

Mr. Smith proposed an adjustment to reduce pro forma depreciation expense in the Vermilion County Division by $17,142, based on his position that the cost of a main extension (the "Alcoa Extension"), which is being constructed by the City should be classified as a Contribution-In-Aid-of Construction ("CIAC"), rather than as a Customer Advance. At the hearing held on February 4, 1998, he testified that Danville proposes to retain ownership of the Alcoa Extension and lease it to CIWC. The City argued in its Initial Brief that this "arrangement would also not result in any need for the Company to refund construction costs to the City, and would eliminate the need to charge ratepayers for depreciation."

CIWC objected to Danville's proposed adjustment, pointing out that the City and the Company have not agreed on the terms of a lease agreement. CIWC also noted that the purpose of the main is to enable it to extend service to new customers. To do so, the Company must comply with the terms of the Commission's rule governing main extensions, which provides that "unless other terms and conditions are formally approved by the Commission," CIWC is required to make refunds to Danville in a total amount up to the cost of the extension over ten years. 83 Ill. Adm. Code 600.230. Mr. Cummings and Mr. Griffy argued that, unless and until such approval is obtained, the Alcoa Main Extension should continue to be treated as a Customer Advance, and depreciation on the extension should be allowed for ratemaking purposes.

Based on the evidence, the Commission concurs with the Company and Staff that the Alcoa Main Extension should be treated as a Customer Advance. Unless and until the parties agree to an arrangement which varies from the requirements of 83 Ill. Adm. Code 600.370, and obtain our approval for such variance, CIWC will be required to make refunds to Danville in accordance with the requirements of main extension deposit rule. There is no dispute that depreciation expense should be allowed on the property which is treated as a Customer Advance. Similarly, capitalized incentive compensation is depreciable.

H. Labor Expense

1. Position of the Company and Staff

The Company made pro forma adjustments to test-year labor and labor-related expense to reflect (i) known and measurable changes in wages and salaries through June 30, 1998 and (ii) the addition of three new employees in the Vermilion County Division and two new employees in the Kankakee Division. During the course of the proceeding, CIWC revised these adjustments to reflect actual union wage increases and the actual salaries of the new employees. It also adjusted its proposed levels of labor and labor-related expense to reflect the actual salaries of a new accounting employee who replaced a Rate Analyst in the Vermilion County Division and a new Division Manager in the Kankakee Division. The operating income statements shown in CIWC Exhibits 8LF through 12LF reflect the Company's proposed levels of labor and labor-related expense, as adjusted in the manner described above. At the hearing held on February 5, 1998, and in its Late-Filed Exhibits, Staff indicated its full acceptance of CIWC's proposed adjustments and the resulting levels of labor and labor-related expense.

2. Danville's Arguments and the Company's Response

a. Wage and Salary Increases

In its Initial Brief, Danville proposed that pro forma labor expense for the Vermilion County Division be reduced by $13,339 to reflect a 3%, rather than a 4.07%, increase in wage and salary levels from 1996 to 1997. In support of this proposal, the City argued that the "projected" 1997 increase is not "prudent and reasonable".

In response, the Company asserts that Danville is under the mistaken impression that the "4.07% increase for the year 1997 for union and non-union employees" was a "projected increase." CIWC indicates that in developing its pro forma labor expense adjustment, it used the actual 1997 wage and salary level as a base for all employees. For the Vermilion County Division, the actual 1997 wage and salary level of $932,601 reflected an actual average increase of 4.07% over the 1996 level.

The Company also takes issue with Danville's suggestion that the pro forma levels of wage and salary expense proposed by CIWC are not "prudent and reasonable,". pointing out that no witness (including Mr. Smith) questioned the prudence of either the 1997 or the 1998 wage and salary increases. To the contrary. Mr. Knepler testified that Staff "examine[d] the level of wages and salaries for employees both union, non-union and officers and so forth to determine whether those levels of salaries were just and reasonable." (Tr. 521). As previously discussed, Staff has accepted the Company's pro forma levels of labor expense.

b. New Employee Positions

The pro forma level of labor expense for the Vermilion County Division, as proposed by the Company and Staff, reflects the actual salaries of employees hired to fill three new positions in that division. Mr. Smith initially proposed that the labor and labor-related expense associated with the three new employees be disallowed because the positions were unfilled at the time he prepared his direct testimony. Danville acknowledged that the evidence shows that the three positions are now filled. The City however, continues to argue that the expense should be disallowed based on speculation that three accounting positions (which are different than the three new positions) "may be eliminated by the end of this year." In support of its position, Danville notes that CIWC plans to enter into an agreement, subject to the Commission's approval, with an affiliated Service Company which is expected to perform certain accounting and other functions for the Company.

In response to Danville's argument, the Company points out that a principal purpose of the planned Service Company formation is to address year 2000 compliance in order to establish a common operating environment for the Company's information systems. CIWC indicates that it presently anticipates that the Service Company would begin to perform work for it no earlier than late 1998 or early 1999. At that time, Mr. Cummings explained, the Company will incur costs for computer hardware and software. The up-front costs associated with these items are expected to be significant. He testified that no change in the number of accounting positions is expected prior to the time that Service Company operations are expected to commence in the fourth quarter of 1998 or 1999. The Company also noted that, in accordance with the Adjustment Rule, CIWC did not make adjustments for any increases or decreases in expenses and/or rate base which will occur after June 30, 1998.

3. Commission Conclusion

The evidence fully supports the levels of labor and labor-related expenses for all Divisions proposed by the Company and Staff in their late-filed exhibits. Danville's adjustment to reflect a 3%, rather than a 4.07%, increase in wage and salary levels from 1996 to 1997 in the Vermilion County Division is unsupported by the evidence. The pro forma level of wage and salary expense proposed by the Company and Staff for all Divisions (including Vermilion County) was calculated by adjusting the actual 1997 wage and salary levels by 3% to reflect the annualized effect of increases for 1998. Mr. Smith did not object to this calculation and there is no evidence to support Danville's suggestion that the pro forma levels of wage and salary expense levels proposed by the Company and Staff are unreasonable or imprudent. The evidence supports the conclusion that those levels are prudent.

The Commission also concludes that there is no basis for Danville's proposal to disallow the labor and labor-related expenses associated with three new Vermilion County Division employees. The evidence shows that those employees actually have

been hired. The Commission rejects Danville's argument that an adjustment should be made to reflect the possibility that one or more accounting positions might be eliminated in late 1998 or early 1999 as a result of the formation of a Service Company. Any adjustments for increases and/or decreases in costs related to the establishment of a Service Company (including costs related to new computer hardware and software, and/or accounting positions) are far beyond the June 30, 1998 cutoff date for adjustments in this rate case. Danville's adjustment is one-sided because it ignores the fact that no adjustments for increases in rate base and expenses (including costs associated with formation and operation of the Service Company) which will occur after June 30, 1998, have been made in this case.

I. Total Quality Management Expense

1. Positions of the Parties

The test-year levels of operating expenses proposed by the Company and Staff for each Division include costs incurred in connection with CIWC's Total Quality Management ("TQM") program. Mr. Cummings testified that the TQM program is an ongoing training program in which employees are instructed with regard to (i) processes to increase efficiency and (ii) improve customer service techniques. Mr. Smith proposed to disallow that portion of the test-year TQM expenses attributable to the Vermilion County Division ($10,358), on the grounds that the Company has not identified any specific cost savings produced by the program. Danville also argues that the TQM costs are an attempt to double-bill the ratepayers for the same Company management that is already utilized, and for which the ratepayers are already paying.

In response, Mr. Cummings explained that the purpose of the TQM program is not solely to produce cost savings. Instead, the TQM program encompasses a variety of initiatives for training employees to redesign processes and develop techniques to improve operations and promote efficiency. CIWC maintains that training programs such as TQM are a normal and essential element of utility operations. He testified that it is not feasible to conduct a formal cost/benefit study for such training programs. The Company, therefore, asserts that its alleged failure to identify actual test year cost savings directly attributable to the TQM program is not an appropriate basis for disallowing TQM expense in this case. CIWC also replied that at the time of a rate case, all savings resulting from training efforts such as TQM are passed on to ratepayers.

CIWC replies that Mr. Smith's double-billing argument is illogical and unsupported by the record. The TQM program, which was initiated in 1993, formalized and enhanced the training programs which the Company had conducted in years prior to 1993. CIWC asserts that there is no evidence to support Danville's suggestion that TQM costs are "extra" costs which improperly duplicate other training expenses incurred during the test year.

2. Commission Conclusion

Based on the evidence, the Commission concludes that Danville's proposal to disallow the Vermilion County Division's test-year level of TQM expense should be rejected. The TQM program is an ongoing training program in which employees are instructed with regard to (i) processes to increase efficiency and (ii) improve customer service techniques. We agree that training programs such as TQM are a normal and essential element of utility operations. The costs of such programs are properly reflected in rates. We also note that Staff does not propose to disallow TQM expense in this case. The City cites no evidence (and none exists) to indicate that the amount of TQM training expense ($10,358) incurred by the Vermilion County Division in 1996 was in any way unreasonable or imprudent.

VI. RATE OF RETURN

A. Capital Structure and Cost of Senior Capital

The only issue in this proceeding with regard to the capital structure and/or cost rates for senior (debt and/or preferred stock) capital relates to the appropriate amount of common equity capital.

1. Position of the Company

The Company notes that, under the Adjustment Rule, the test year capital structure (along with the rate base and income statement) should be adjusted to reflect changes reasonably certain to occur within twelve months of the date on which the proposed rates were filed. Accordingly, CIWC proposed that the capital structure as of December 31, 1996 be adjusted to reflect the: (i) issuance of $4 million of new common equity capital approved in Docket 98-0032; and (ii) addition of retained earnings in the amount of $999,000 for the period from January 1, 1997 through June 30, 1998. In addition, the Company accepted an adjustment proposed by Mr. Pregozen to adjust short-term debt to the level of $686,458 on a pro forma basis. Reflecting these adjustments, the common equity balance as of December 31, 1996 is $37,219,663. This balance includes the adjusted balance of retained earnings (appropriated and unappropriated) in the amount of $11,580,352.

2. Staff Position

Mr. Pregozen accepted the adjustment to reflect $4 million of new common equity capital, but proposed exclusion of any retained earnings increment for the period from January 1, 1997 through June 30, 1998. Because the Company Business Plan did not include a "comprehensive analysis of cash flows" for the first six months of 1998, he opined that CIWC had not supported its position that no other capital (i.e., capital other than retained earnings and the $4 million of new common equity) would be issued. He also suggests that the "proposal to adjust the capital structure for changes

to retained earnings implicitly assumes that retained earnings will be CIWC's only source of new capital from December 31, 1996 to June 30, 1998." He asserted that, "[w]ithout a comprehensive analysis of cash flows [for the first six months of 1998], that assumption has no support." Moreover, the Company presented no forecasted short-term monthly balances beyond December 31, 1997. (Tr. 399).

3. Company Response

The Company points out that the income statement and rate base in this proceeding are adjusted to reflect changes reasonably certain to occur prior to June 30, 1998, and maintains that it also is appropriate to reflect such changes to the capital structure. Mr. Maurer notes that the retained earnings which Mr. Pregozen proposes to disregard actually provide funds to finance a portion of the cost of the plant additions for the period through June 30, 1998, which are included in rate base in this case.

For the 11 months ended November 30, 1997, the actual level of earnings retained was $556,643 (net income of $2,641,643 less common dividends of $2,085,000). This increase brought the balance of retained earnings (appropriated and unappropriated) from $10,581,352 to $11,137,995, which was within 1.65% of the Company's estimate of retained earnings for this period. For the 12 months ended December 31, 1997, the level of additional retained earnings further increased by $565,228, bringing total retained earnings (appropriated and unappropriated) to $11,146,580. CIWC asserts that this evidence confirms the reasonableness of its estimate that retained earnings in the amount of $999,000 will be added during the 18 months ended June 30, 1998.

According to the Company, the fact that the Business Plan did not include a detailed analysis of cash flows for the first six months of 1998 does not mean that it did not support the retained earnings forecast. Mr. Maurer indicated that it provided detailed support for the estimated common balance through June 30, 1998 in response to Staff data requests. CIWC also points out that Staff is incorrect in asserting that the Company assumed that no capital other than retained earnings would be issued prior to June 30, 1998. As noted above, CIWC reflected adjustments for: (i) new common equity capital in the amount of $4,000,000; and (ii) a short-term debt balance as of June 30, 1998 of $686,458. It is correct that no other source of new capital (other than retained earnings) is reflected. As Mr. Maurer confirmed, however, this assumption is appropriate because, ". . . no other new capital will be issued before June, 1998." Thus, the Company asserts that the assumption is fully supported by the evidence presented in this case.

4. Exceptions and Commission Conclusions

Staff and CIWC agree that the appropriate balances for short-term debt and common equity are $686,458 and $36,173,871, respectively. CIW[redacted]

[redacted]

B. Cost of Common Equity

1. Recommendation of CIWC Witness Dr. Phillips

To estimate the cost of common equity, Dr. Phillips utilized the Discounted Cash Flow ("DCF") model, risk premium method and Capital Asset Pricing Model ("CAPM") methodologies. He used two variants of the DCF approach: (i) a "traditional" DCF model; and (ii) a "modified" DCF analysis. Since the stock of CIWC is not publicly traded, he performed his DCF analyses for a proxy group of eight companies, all of which are either operating water utilities or companies which own the common stock of such utilities. Each proxy company meets two criteria: (a) a stock rating of B+ or better; and (b) at least 85% of its annual revenues derived from water sales.

Dr. Phillips used the quarterly version of both the traditional and modified DCF models. In connection with the traditional DCF approach, he calculated DCF results using both the average high-low market prices for the two months ended April 30, 1997; and on a spot date, May 9, 1997. Average prices for the two-month period were considered to eliminate short-run or abnormal fluctuations. He utilized projected growth rates from the Institutional Brokers Estimate System ("IBES") and Zacks Investment Research ("Zacks").

Dr. Phillips adjusted the dividend yield component of the DCF analysis to reflect flotation costs incurred by the sample companies. All of his sample water companies (both operating and holding companies) have issued common stock in the past, have incurred expenses, and must recover those expenses over time. He noted that flotation costs are a component of the cost of equity for the proxy companies, and this component must be considered in estimating the cost of common equity by reference to data for a proxy group. He adjusted the dividend yield component in his DCF analysis to reflect a 5% minimum flotation cost adjustment based upon a study of costs incurred for common equity issuance's by the proxy companies over the past eleven years. For the proxy utilities, the common equity cost range developed by use of the traditional DCF approach was 9.35% to 9.66%.

Dr. Phillips explained that results of the modified DCF analysis were considered because, at present, the market price of the stocks of utilities in the comparable sample is substantially in excess of book value. The stock price utilized in the traditional DCF formula is the market price of a sample company's stock. Thus, the traditional DCF analysis provides a market-derived estimate of the cost of common equity. His concern is not with regard to the theoretical basis for the traditional DCF methodology. As he explained, the problem is that, in rate proceedings, the market-derived DCF result is applied, not to the market value of common equity used in the traditional DCF formula.

but to the book value of common equity capital supporting the original cost rate base. When the market price of stocks used to develop a traditional DCF cost estimate is above book value, application of an unadjusted DCF result to the amount of book common equity which supports rate base will not produce sufficient revenue to cover the market cost of common equity capital as determined by the DCF approach.

In light of the problem with use of the traditional DCF approach under present market conditions, Dr. Phillips considered the results of the modified DCF methodology in which the book value of stock is substituted for the market price in the dividend yield component. All of the other inputs are the same as those used in the traditional DCF methodology. He indicated that the results of the DCF approach must be modified in the manner he proposed if the allowed common equity rate of return is to reflect the market cost of common equity capital. The modified DCF common equity cost for the proxy water utilities is 12.94%. Taking into account the results of the traditional and modified DCF models, he testified that his DCF cost of equity estimates for the proxy companies range from 9.35% to 12.94%.

Dr. Phillips also calculated estimates of the cost of common equity using a risk premium method. The method is used by the Virginia Corporation Commission and is based on a study of the utility common stock risk premium over the yield on long-term Treasury bonds. That study found that the average common equity risk premium was 321 basis points, with a yield of 9.77% on 30-year Treasury bonds. The study further showed that a one percentage point (100 basis points) change in the Treasury bond yield changes the risk premium by approximately 37 basis points. Since 30-year Treasury bonds are projected to yield an average of 6.8% in the period in the period 1999-2001, he concluded that the current risk premium is 431 basis points. He indicated that the risk premium approach (as adjusted to reflect flotation costs) resulted in a common equity cost estimate of 11.41%.

Dr. Phillips also employed a CAPM analysis, which assumes that the cost of common equity is equivalent to the return on a riskless security plus a risk premium related to the risk inherent in a particular utility's stock. In this approach, he utilized the yield on 30-year Treasury bonds as the risk-free return, a risk premium for common stock returns over the yield on long-term government bonds calculated by Ibottson Associates and betas for the proxy companies set forth in Value Line. He calculated a CAPM common equity cost estimate (adjusted for flotation cost) of 11.53%.

Based on the results of the DCF, risk premium and CAPM methodologies, Dr. Phillips recommended a common equity cost rate of 11.25%. He explained that the recommended equity cost rate is based on consideration of the risks faced by the water industry in general and CIWC in particular. The entire water industry is faced with large expenditure requirements driven by (a) more stringent state and federal environmental regulations; (b) the need to rebuild aging infrastructure; and (c) diminished water supply. Moreover, the industry's revenues are increasingly subject to fluctuations due to reductions in consumption because of (a) conservation.

(b) bypass (i.e., customers installing their own facilities); (c) industrial relocation; and (d) eminent domain. He noted that Standard & Poor's ("S&P") has tightened the criteria that water companies must meet to achieve specified bond ratings. This action indicates that the risk associated with an investment in water utilities is increasing. He also took into account CIWC's specific risks as discussed in the direct testimony of the Company's Executive Vice President, Mr. Cummings. He indicated that, in addition to Safe Drinking Water Act regulations, the Vermilion County Division's water supply is especially subject to contamination from nitrates, due to the fact that water to Lake Vermilion passes through a large agricultural area. He also noted that the Vermilion County Division and University Park-Water Division have experienced reductions in consumption largely due to plant closings (e.g., the General Motors Foundry in Vermilion County Division in 1996; NutraSweet in University Park in 1996). In the Kankakee Division, a decline in water sales resulted from a 1996 increase in rates for sewer service and the imposition of restrictions on industrial sewage usage (by the Kankakee Metropolitan Wastewater Utility).

As Dr. Phillips noted, these risks have resulted in a substantial decline in the Company's financial integrity. In the period 1994-1996, the Company's return on common equity declined from 11.50% to 5.60%; and its pre-tax interest coverage declined from 2.20x to 1.85x. To attract the capital necessary to finance its construction program, he determined that the Company's financial integrity must be restored (e.g., pre-tax interest coverage within a range of 2.25x to 3.75x).

2. Recommendation of Staff Witness Pregozen

In developing his recommendation, Mr. Pregozen performed a traditional DCF analysis and CAPM analysis for a diversified sample of eight ~~ten large~~ electric, gas and water companies. He utilized historical data from 1991-1995 for three ratios and historical data from 1993-1995 for the other thirteen ratios he identified. He performed a traditional DCF analysis for the sample companies. He selected a spot market price for October 6, 1997, for use in his DCF analysis. As dividend growth rates, he utilized projections supplied by IBES and Zacks in September 1997. Due to uncertainty with regard to investor-expected growth, he calculated high and low DCF common equity cost estimates for the companies in his sample. He also calculated average low and high traditional DCF estimates for the sample companies of 9.54% and 9.69%, respectively.

Mr. Pregozen calculated CAPM estimates using two estimates of the risk-free rate of return. As one measure of the risk-free rate, he utilized the average interest rate implied by the prices of short-term Treasury bill futures contracts. He also derived the average interest rate implied by the prices of long-term U.S. Treasury bonds., referencing his estimates from closing prices on October 6, 1997. To determine the market risk premium, he first calculated a traditional DCF cost estimate based on June and July, 1997 data for the firms which comprise S&P Composite Index. From this estimate, he deducted the two risk-free rates which he calculated. As measures of

security-specific risk, he utilized a "beta estimate" which he calculated for the sample companies. He calculated Treasury bill and Treasury bond CAPM estimates of 10.46% and 11.11%, respectively. However, he did not use the long-term CAPM estimate based on Treasury bond yields because Treasury bond yields include a premium for interest rate risk that causes them to overstate the long-term risk-free rate. (Staff Ex. 6 at 26-27)

Mr. Pregozen recommended a common equity cost range of 9.61% to 10.51% (as adjusted for issuance expense). To develop the low end of the range, he determined the average of his two DCF estimates and rounded the result to the nearest one-tenth of a percent. As the upper end of the range, he utilized the CAPM estimate developed from Treasury bills.

3. Recommendation of Danville Witness Ralph Smith

Mr. Smith, asserted that a "Florida leverage graph produced a return on equity of 10.03%, which provides independent confirmation of the reasonableness of Staff's recommendation." He, however, did not present any analysis to support his statement or describe the "Florida leverage graph."

C. Selection of Sample Companies

a. Position of the Company

The Company maintains that, in rate proceedings, the goal is to determine a current cost of common equity capital as of the time that the analysis is prepared. CIWC asserts that, when data for proxy companies are used in the analysis, it is essential that the companies be comparable to the subject company at the time of the analysis. CIWC notes Mr. Pregozen's testimony that, ". . . the validity of using proxy companies in an analysis of another company's rate of return rests on the comparability of the former to the latter." In selecting a comparable sample, Dr. Phillips included data only for companies in the water industry which met two criteria: (a) a stock rating of B+ or better; and (b) at least 85% of annual revenues derived from water sales. In this way, he asserted that there is a basis for comparison of common equity cost estimates determined for his sample companies and the cost of common equity to CIWC. He also took into account CIWC's specific risk characteristics to determine how its cost of common equity compares to that for the sample he selected.

The Company asserts that Mr. Pregozen, on the other hand, did not consider data for companies comparable to it. CIWC maintains that his consideration of outdated 1991-1995 data does not support a conclusion that those companies were comparable to CIWC at the time of his analysis. The Company further maintains that the record provides ample reason to conclude that his sample of large, diversified companies, several of which have significant non-utility operations, is not comparable to CIWC.

As the Company indicates, Mr. Pregozen selected his companies by use of data for three ratios for the period from 1991-1995, and thirteen other ratios for the period from 1993-1995. He used simple average data for this historical period, and gave no more weight to 1995 data than he did to data for periods even more remote.

Mr. Pregozen indicated that he reviewed Value Line Reports (and, in the case of two of his companies, 10-K Reports) to determine whether, subsequent to 1995, his proxy companies experienced changes in their operating characteristics which would affect the sixteen ratios. According to the Company, however, a problem with this approach is that he considered no such information with regard to CIWC to determine whether its characteristics had changed. Thus, the Company argues that, even if one assumes that the sample companies were comparable to CIWC in 1995 and prior years (a point which CIWC indicates that it would dispute), there is no valid reason to assume that they remained comparable at the time of his 1997 analysis.

Two of Mr. Pregozen's ratios, for example, measure the profitability of a company. Based on data for 1995 and prior years, he concluded from his ratio data that, "CIWC exhibits unusually high profit margins, indicating lower operating risk." He acknowledged, however, that he could not recall the testimony of Mr. Cummings showing that, between 1995 and the 1996 test year CIWC's profit margin declined significantly. Although he testified expressly that a company's profit margin affects "operating risk," the Company notes alleges that, in selecting his sample, he failed to take the significant post-1995 decline in CIWC's profitability into account.

The Company maintains that a second problem with Mr. Pregozen's approach is that, at the time of his late-1997 analysis, he acknowledged that non-utility operations were affecting the financial performance and stock price of certain of his proxy companies. Yet, he did nothing to determine when these operations were initiated or how or whether these operations affected his 1991-1995 ratios. As a result, CIWC asserts there is no basis for determining whether factors which he admits were affecting the stock price of the sample companies at the time of his analysis (and, therefore, his DCF and CAPM results) also affected the 1991-1995 financial ratios used in selecting his sample.

For the reasons discussed, the Company maintains that Mr. Pregozen's review of 1991-1995 mathematical ratios does not support a conclusion that the sample companies selected were comparable to CIWC at the time of his 1997 analysis. Moreover, the Company alleges that the dissimilarity between CIWC and the sample is apparent. CIWC is an operating water utility which has operations only in Illinois, no significant non-utility operations and total annual revenue of approximately $20,600,000. His sample, on the other hand, consists of eight electric and water utilities, most of which are diversified across state lines and/or into non-utility businesses.

As examples, the Company notes that Mr. Pregozen included four companies in his sample which own the common stock of water utilities. Only one of these companies, however, itself provides water service. As measured by 1996 revenue, these companies range in size from 1.9 times to 43 times larger than CIWC.

The Company maintains that Mr. Pregozen's recommendation should be disregarded, not only because his sample companies are not comparable to CIWC, but also because Illinois law expressly prohibits use of a rate of return which is affected by non-utility operations. As discussed above, his recommended common equity cost ratio of 10.06% was the mid-point of a range developed by use of his traditional DCF estimates and his CAPM estimates based on Treasury bills. The two DCF estimates (as adjusted to reflect issuance expense) were averaged to determine the low end of the range. The CAPM estimate based on Treasury bills (as adjusted for issuance cost) was the high end.

The Company notes that, because CIWC's common stock is not publicly traded, Mr. Pregozen's DCF and CAPM results were developed from data for "proxy" companies. Data for the proxy group are used in his analysis in place of data for CIWC. Accordingly, the Company opines that the non-utility operations of the group are treated in his analysis as if they were operations of CIWC. Furthermore, Mr. Pregozen acknowledged the non-utility operations of his sample companies affected his DCF and CAPM results. He further agreed non-utility operations also affected the CAPM result.

The Company observes that Section 9-230 of the Illinois Public Utilities Act (220 ILCS 5/9-230) states as follows:

> § 9-230. In determining a reasonable rate of return upon investment for any public utility in any proceeding to establish rates or charges, the Commission shall not include any incremental risk or increases in capital which is the direct or indirect result of the public utility's affiliation with unregulated or nonutility companies.

Thus, CIWC contends that Illinois law expressly prohibits use of a rate of return which reflects "any incremental risk" from non-utility activities. According to the Company, Mr. Pregozen's recommendation which, by his own admission, reflects the risks associated with the non-utility operations of his sample group, must be disregarded.

The Company further argues that, if the Commission rejects its position and chooses to consider Mr. Pregozen's results, the Commission at the very least should recognize that CIWC's allowed return should be adjusted upward in light of its small size relative to his sample. Based on 1996 revenue or total capitalization, the Company alleges that Mr. Pregozen's sample companies are substantially larger than CIWC. His 10.06% recommendation, however, is the mid-point result for his sample

and makes no allowance for CIWC's higher risk as compared to the sample. The Company insists that a company's size affects its risks. Smaller companies, the Company asserts Smaller companies, the Company asserts may not be diversified, may be dependent on one particular customer or group of customers for revenue and may not have access to the public debt market. CIWC alleges that, for these and other reasons, many commissions recognize the higher perceived risk of smaller utilities. In Re Pennsylvania Public Util. Comm. v. Consumers Pennsylvania Water Company - Roaring Creek Division, Docket R-00973869, et. al., Order at 51-52 (Pa. P.U.C. Oct. 2, 1997), for example, the Company notes that the PaPUC added 40 basis points to the allowed common equity cost rate for another small Consumers subsidiary. The resulting level of common equity return was 10.98%. CIWC asserts that, if Staff's recommendation is considered, a similar upward adjustment of 40 basis points should be applied to his mid-point recommendation. With such an adjustment, his mid-point result would be adjusted to 10.46%.

b. Position of Staff

Staff maintains that the ratios Mr. Pregozen used to form the comparable sample distill all the potential influences and risks reflected in factors such as number of customers, customer mix, size of service territory, service area density, regulatory climate and construction requirements, factors the Company admitted were related to a utility's risk. The Company avers that Mr. Pregozen's sample is comparable in risk to CIWC. Staff states that , if one were to accept for the sake of argument that Dr. Phillips' water utility sample is comparable in risk to CIWC, then it follows that Mr. Pregozen's comparable sample is comparable in risk to CIWC. As Mr. Pregozen testified, investments with the same rate of return requirements have the same risk (Staff Ex 6 at 14 and 21-22). Staff notes that using the "traditional" DCF, Dr. Phillips estimated the cost of common equity for his water utility sample equaled 9.05%-9.36%, excluding flotation costs (CIWC Ex 6.2 at 9). Using a similar DCF model, Mr. Pregozen estimated the cost of common equity for the comparable sample equaled 9.54%-9.69%, excluding flotation costs (Staff Ex 6, Sch. 11). Using the CAPM and U.S. Treasury bond yields to measure the risk-free rate, Dr. Phillips estimated the cost of common equity for his water utility sample equaled 11.23%, excluding flotation costs (CIWC Ex 6.2 at 9). With that same model and risk-free rate proxy, Mr. Pregozen estimated the cost of common equity for the comparable sample equaled 11.11%, excluding flotation costs (Staff Ex 6, Sch. 13). Therefore, Staff concludes if Dr. Phillips' water utility sample is a reasonable proxy for CIWC, then it follows that Mr. Pregozen's comparable sample is reasonable for that purpose as well. Conversely, if Mr. Pregozen's comparable sample is not a reasonable proxy for CIWC, then it follows that Dr. Phillips' water utility sample is unreasonable for that purpose as well.

Next, Staff stated that with regard to the "non-utility" risk factor, the industry within which a company operates is not a risk characteristic, it is only an indicator of one of the risk characteristics. Cost of capital models do not include a factor for source of risk; rather, they reflect a quantity of risk. This can be clearly seen in the CAPM,

which has only one risk factor, "beta" (ICC Staff Ex 6 at 21-22). The CAPM does not include any additional risk factors to account for "industry," or any other source of risk. Thus companies from different industries could have the same beta. In addition, companies with the same beta would have the same required rate of return (*See CAPM model presented on* Staff Ex 6 at 21). Significantly, the four-company beta that Dr. Phillips used for his water utility sample, 0.59, is very similar to the 0.56 beta for Mr. Pregozen's comparable sample (Staff Ex 6, Sch. 13). As noted above, when similar estimates of the risk-free rate are used, the two samples produce very similar estimates of the investor-required rate of return on common equity.(Staff Ex. 6 at 21-22).

Also, Staff contends that size is not a risk factor. Mr. Pregozen's DCF analysis shows that even the smallest company in his sample, Middlesex Water Company, has a cost of common equity approximately equal to the comparable sample.

Next, Staff maintains that CIWC is incorrect in asserting that Mr. Pregozen did not consider sources of information beyond 1991-1995 financial data. He testified that the workpapers he provided in response to a data request did not include other material discussing the business operations of CIWC other than certain 1991-1995 data because Staff does not, and is under no obligation to, provide work papers to the Company that Staff received from the Company. Staff contends that with regard to 1996 data, he stated that his analysis was up-to-date, having been prepared in October 1997 when full year 1997 data were not available.

With respect to Mr. Cummings testimony regarding the Company's decline in profit margin, Staff contends that his testimony does not address CIWC's operating profit margin at all. Further, in Staff's opinion, it would be improper to compare 1996 data to 1995 data.

Staff does not believe that Mr. Pregozen was bound to include sample companies in the same industry as CIWC, noting that Dr. Phillip's risk premium analysis was based on a sample of electric utilities. Also, Staff notes that his "modified" DCF analysis does not even reflect the risk of his water utility sample let alone that of CIWC. (Staff Ex. 6 at 33-34). Moreover, Dr. Phillip's used S&P stock ratings, although CIWC, two companies in his sample and CIWC's parent, Consumers, do not have stock ratings.

Staff does not agree that Mr. Pregozen's cost of common equity analysis violates Section 9-230 of the Act. Staff points out that Section 9-230 applies only to "increases" not decreases as CIWC claimed, in the Company's cost of capital. Moreover, Section 9-230 clearly requires that unregulated or non-utility operations be affiliated to the utility in question. Mr. Pregozen constructed his sample using CIWC data only (Staff Ex 6 at 15). Therefore, Mr. Pregozen's sample was constructed without reference to the unregulated or non-utility operations of CIWC's parent affiliate, CWC, or any subsidiary company affiliates. Once the quantity of risk of CIWC is determined, which excludes the quantity of risk of its affiliates, the comparable sample methodology

compares that risk to the quantity of risk of other utilities. Next, Mr. Pregozen's comparable sample methodology selects those utilities with the most similar quantity of risk. Since the investor-required rate of return is a function of the quantity of risk rather than the source of risk, the types of businesses in which the utilities in the data base are engaged is irrelevant as long as their quantity of risk matches the quantity of risk of CIWC's operations, which include utility operations only (Staff Ex 6 at 14-15). If the quantity of risk is the same, the investor-required rate of return is the same. If the investor-required rate of return is the same, then no increased cost of capital will be included in the rate of return.

Staff also rejects CIWC's notion that 40 basis points should be added to the results of Mr. Pregozen's analysis to recognize that the Company is much smaller than the companies in his sample. Staff contends that there is no evidence in the record supporting a claim that the cost of common equity varies inversely with a utility's size. Staff points out that Dr. Phillips added only 10 basis points in recognition of a size differential.

c. Commission Conclusion

When the cost of common equity for a utility is estimated by use of data for a sample company group, it is essential that there be a reasonable basis to conclude that the companies in the sample are comparable to the utility. Although Mr. Pregozen's sample included utilities with unregulated operations, we note that these companies are not affiliated with CIWC. Furthermore, we note that Mr. Pregozen measured the risk of those companies in relation to CIWC alone. Mr. Pregozen's technique quantifies risk, and companies with the same risk have the same required rate of return, regardless of the source of that risk. Therefore, the presence of companies with unregulated operations in a sample used to measure CIWC's cost of common equity does not violate Section 9-230 of the Act. Based on the record developed in this proceeding, the Commission concludes that both Dr. Phillips' water sample and Mr. Pregozen's comparable sample are reasonable proxies for CIWC's risk. Both samples produce nearly identical estimates of the cost of common equity when identical methodologies are used. However, as will be explained below, Dr. Phillips implemented his CAPM improperly; therefore, we will base the rate of return on common equity for CIWC on Mr. Pregozen's utility sample.

The Commission also rejects the 10 basis points Dr. Phillips added to his overall return on equity calculation to account for the allegedly greater risk of CIWC compared to his sample companies. Dr. Phillips failed to demonstrate that there is a direct relationship between the size of a utility and its risk. Accordingly, we cannot accept Dr. Phillips' risk adjustment.

D. Reliance on Traditional DCF Results

1. Position of the Company

The Company contended that, when the market price of a company's stock is above book value, application of a traditional DCF common equity result to the (lower) book value of common stock supporting rate base (as is done in a rate case) would result in a dollar level of common equity return which is below the market-determined level. CIWC maintains that this problem has been exacerbated in recent years as the market prices of utility stocks have increase further above book value. If the DCF result in the E'Town Corporation, one of Mr. Pregozen's sample companies, were adopted for use in a rate case without adjustment, the resulting revenue would not cover that utility's market cost of common equity capital.

Dr. Phillips asserted the "modified" DCF approach is necessary because the underlying assumptions of the DCF model (i.e., constant growth in dividends, earnings, and book value per share; constant growth rate in dividends in perpetuity; and market price equal to book value) do not hold true (CIWC Ex 6.0, p. 15). The Company also claims the problem discussed by Dr. Phillips has been recognized by numerous regulatory commissions. CIWC points to the Indiana Commission in Indiana-American Water Company, Docket 39595, Order at 34-36 (Feb. 2, 1994), and a 1995 decision in Re Missouri-American Water Company, Case Nos. WR-95-205 and SR-95-206, Report and Order, p. 14 (Nov. 21, 1995). See also, Iowa Electric Light and Power Co., RPU-89-9, Order at 63-64, (Iowa P.U.B., Oct. 25, 1990) (". . . as noted in earlier decisions, the DCF method may understate the return on equity in some circumstances. This is particularly true when the market is volatile and the company in question has a market-to-book ratio in excess of one."). Re Niagara Mohawk Power Corp., 140 PUR4th 481, 491 (N.Y. 1993) ("There are difficulties in making good DCF calculations whenever a utility's stock sells, for whatever reason, above book value."). Thus, the Company claims many regulatory commissions are in agreement with Dr. Phillips' criticism of the traditional DCF approach.

As Dr. Phillips indicated, his position is not that results of the traditional DCF approach should be disregarded. His position is that results from the modified DCF method discussed above (which recognizes the fact that the traditional DCF result is applied in rate cases to the book value of common equity) should be considered along with traditional DCF results. In his modified DCF approach, the book value of a sample company's stock is substituted for the market price. CIWC maintains that the result of this calculation (as the Missouri Commission recognized in Missouri-American Water Company, supra) is a common equity cost estimate which is (i) not unduly reduced by what Staff characterizes as stock prices inflated by "excess" returns; and (ii) properly applicable to the book value of common equity capital supporting rate base.

The Company further maintains that, under present market conditions Mr. Pregozen placed undue emphasis on traditional DCF results. In developing his

common equity cost range of 9.60% to 10.50% (before issuance cost), he considered two traditional DCF estimates and only one other estimate, a CAPM estimate based on Treasury bills. He calculated a second CAPM estimate based on Treasury bond yields, as discussed above, but chose to discard it. CIWC believes that this emphasis on traditional DCF findings is inappropriate under current market conditions. It maintains that Dr. Phillips' analysis, which includes use of the DCF (traditional and modified), risk premium and CAPM methodologies, represents a more thorough approach, which is not unduly affected by traditional DCF results.

2. Position of the Staff

Mr. Pregozen testified that the constant growth DCF model does not assume market price equals book value per common share. As a constant growth model, the "modified" DCF also assumes earnings, dividend and book value growth to be equal. (Staff Ex. 5 at 34-35). Staff points out that this approach does not address the problem of inequality of earnings, dividend and book value growth. Staff points out that as long as investors expect the company to earn its cost of common equity over its lifetime, it makes no difference if investors expect dividends to expand at the same rate for any segment of time. Constant growth and variable growth DCF models would produce the exact same estimates of the investor-required rate of return on common equity. Mr. Pregozen provided three water utilities to demonstrate that Dr. Phillips' argument that the product of a utility's rate base and its allowed rate of return are the only sources of market value to a firm. (Staff Ex. 6 at 36-39). Staff further contends that the modified DCF would produce adjustments to returns that would offset adjustments to rate base and make the establishment of original cost rate base superfluous. Staff asserts that since book value of common equity does not vary with the investor required rate of return on common equity, the cost of equity estimate derived from Dr. Phillips' modified DCF model would remain constant despite changes in the investor required rate of return on common equity. (Staff Ex. 6 at 33-34).

Staff discussed the fact that Mr. Pregozen's comparable sample currently exceeds book value. It asserts that CIWC is not entitled to a return on common equity in excess of the investor-required rate of return. Utility customers should not pay higher rates simply because utility stock prices are in excess of book values.

Staff maintains that there exists no theoretical foundation for the modified DCF model. It points out that the Commission rejected this model in Illinois-American, Docket 95-0076, Order at 69.

Staff maintains that Dr. Phillips' use of both the "traditional" and "modified" DCF models is internally inconsistent. Staff maintains that if, as Dr. Phillips claims, the "traditional" DCF understates the cost of common equity when a utility's stock price exceeds its book value, then it should be discarded (CIWC Ex 6.0 at 15-16). If the "traditional" DCF does not understate the cost of common equity under those circumstances, then the "modified" DCF loses its only alleged basis. Moreover, Staff

observes that Dr. Phillips found nothing wrong with applying estimates of the cost of common equity to the common equity portion of rate base that the CAPM or risk premium model produces. However, Staff maintains that Dr. Phillips' theory of the effect of applying a "traditional" DCF estimate of the cost of common equity to the equity portion of rate base when utility stock prices exceed book values applies equally to any market-based estimate of the cost of common equity regardless of the model used to develop that estimate (Staff Ex 12 at 6). Thus, Staff concludes that Dr. Phillips' position on the analysis is internally inconsistent.

With regard to "over" weighting the DCF model, Staff submits that there is no single valid weighting scheme. Second, the mid-point of Mr. Pregozen's recommended return on common equity, 10.06%, results from giving both his U.S. Treasury bill-based CAPM estimate and the average of his DCF estimates 50% weight. This is the same weighting Dr. Phillips gave to his "traditional" DCF results (CIWC Ex 6.2 at 9-10 and 16CIWC Ex 6.0R at 23).

In summary, Staff contends that the modified DCF model results should not be used because (1) the Company has not shown what has caused market values of common equity to exceed book values; (2) CIWC does not have an observable market value of common equity so it is not known whether its market value exceeds its book value; and (3) without any evidence on the first two points, CIWC cannot prove that it will fail to earn a fair rate of return on its rate base if its allowed rate of return is not based on the modified DCF model.

3. Commission Conclusion

The record fails to demonstrate that, when the market price of a stock used in the traditional DCF analysis is above book value, application of the resulting DCF result to the book value of common equity supporting rate base will not produce enough revenue to cover the investor-required return on common equity capital as determined by the traditional DCF approach. Moreover, we do not agree that, as stock prices have risen, the problems associated with reliance on the traditional DCF theory in rate cases also have increased. Also, we note that there are only a handful of regulatory commissions that approve the modified DCF approach. For the reasons given in the Staff's analysis, we will continue to rely upon the traditional DCF approach.

I. CAPM Methodology

1. Position of the Company

The Company points out that Mr. Pregozen calculated CAPM cost estimates for his sample companies of 10.46% based on T-bills and 11.11% based on T-bonds. In developing his recommended common equity cost rate range, however, he utilized as

the "high" end of the range (before adjustment for issuance cost) only the lower of his two estimates (rounded to the nearest one-tenth). He discarded the CAPM estimate of 11.11% based on T-bonds.

Dr. Phillips opined that in a CAPM analysis, there must be consistency between the maturity of the assets, i.e., between the maturity of the risky asset (the stock) and the maturity of the riskless asset (the T-bill or T-bond). Furthermore, long-term T-bonds are closer in maturity to common stocks than are ninety-one day to one-year T-bills. If a short-term risk-free rate is used in the analysis, Dr. Phillips alleged that the resulting CAPM estimate will be inappropriate for a long-term security, such as a common stock. He claimed that consistency requires the use of a long-term risk-free rate in estimating a cost rate for a long-term security, such as common stock.

Dr. Phillips noted that, in recent years, short-term interest rates, such as those on T-bills, have been influenced by an entirely different set of factors (e.g., Federal Reserve monetary policy, international money flows) than long-term interest rates (e.g., long-term inflation expectations, the demand for long-term investment capital). Thus, stocks and T-bonds are influenced by similar factors, which he claimed the CAPM methodology requires. For these reasons, he concluded that there is more substitutability between long-term T-bonds and stocks than between short-term bills and stocks, especially when one is considering utility stocks.

The Company notes Mr. Pregozen's acknowledgment that, "[s]ince common equity theoretically has an infinite life, inflation and real risk-free rate expectations embodied within its market-required rate of return will equal the inflation and real risk-free rates anticipated to prevail over the long run . . . . Therefore, U. S. Treasury bonds are more likely to incorporate within their yields the inflation and real risk-free rate expectations that drive, in part, the prices of common stocks than either U. S. Treasury notes or Treasury bills." Dr. Phillips claimed that these factors support the view that the yield on long-term T-bonds is a more accurate indicator of the long-term risk-free rate for purposes of the CAPM analysis (as compared to the yield on T-bills).

2. Position of the Staff

Based upon his examination of whether T-bond yields more accurately reflect long-term inflation and real risk-free expectations than T-bill yields currently, Mr. Pregozen concluded that T-bill yields are more accurate. He maintains that, "the presence of interest rate risk causes U.S. Treasury bond yields to overstate the long-term risk-free rate." He also concludes that the long-term risk-free rate "appears to be closer to the U.S. Treasury bill yield than to the U.S. Treasury bond" yield for two reasons: (1) forecasts of inflation published by WEFA and Blue Chip when added to the forecast by these entities of the real risk-free rate and real GDP growth, respectively, imply a risk-free rate of 4.9% to 5%; and (2) when a calculation of the historical "premium for interest rate risk" of 1.4% is deducted from the implied yield on T-bonds of 6.62%, the resulting yield, 5.22%, is close to the implied yield for T-bills,

5.14%. Staff also asserts that the inflation component of the risk-free rate should include an allowance for expected inflation, but no allowance for "unexpected inflation." It asserts that, if an allowance for the risk of unexpected long-term inflation were reflected in the risk-free rate, that rate would not be risk free.

3. Company Response

In response, Dr. Phillips opined that, on default-free Treasury securities, the major reason for the difference between T-bill yields and T-bond yields is investors' expectations of inflation. Assuming no change in the rate of interest, Dr. Phillips alleged that long-term T-bond yields are presently somewhat higher than the short-term T-bill yields because investors expect somewhat higher inflation rates in the future. He maintains that it is the inflation expectation of investors that drives whatever interest rate premium exists in long-term T-bond yields. Consequently, he indicates that Mr. Pregozen's position that the so-called risk-free rate should reflect a component for inflation (and the real rate of interest), but not interest rate risk, is wholly illogical. In this context, inflation and interest rate risk, in large part, are one and the same.

Dr. Phillips opined that the risk discussed in Staff's rebuttal testimony for "unexpected" inflation is not security-specific, i.e., it applies to all securities in the market which are outstanding for a given term. In the CAPM formula, as set forth by Mr. Pregozen (Required Return = $R_f + B \times (R_m - R_f)$), the difference between the expected return on the market portfolio (R_m) and the risk-free rate (R_f) is multiplied by the Beta for the specific security for which a return is to be estimated (B). The result is then added to the risk-free rate. He notes that the risk-free rate, in turn, includes both the real interest rate and a premium for investors' inflation expectations, but (according to Mr. Pregozen) does not include an inflation risk premium. He points out that, if an inflation risk premium is reflected at all in Mr. Pregozen's approach, it would be included in the component of the formula which is multiplied by the Beta for the specific security (B). As a result, the market "premium" for inflation included in the CAPM estimate would vary among securities in accordance with the security-specific Beta. Dr. Phillips claims that this is illogical.

Dr. Phillips opined that two securities which will be outstanding over the same time period should reflect the same "inflation risk" premium. He claims this is true because the "risk" that inflation will differ from the amount expected for a given period is the same for all securities outstanding during that period. Accordingly, he maintains that it is illogical and inappropriate for Staff to rely upon a formula which produces differing measures of the investor-expected inflation risk premium for the same period. He claims that, under Mr. Pregozen's approach, the inflation risk premium for a given time period would be understated for any security with a Beta below 1.00, such as each of his proxy common stocks. For the formula to work as intended, he indicates that risks which are not security-specific cannot be included in the component of the formula to which the security's Beta is applied. Such risks must be reflected in the so-called risk-free rate (R_f). According to him, the risk-free rate is not free of all risk; it is only

free of risks which are security specific. Thus, he concludes that the "inflation" component of the risk-free rate should reflect both expected and unexpected long-term inflation.

With regard to Staff's assertion that the risk-free rate must be risk free, Dr. Phillips points out that the issue is not one of terminology. He notes that the CAPM formula used by Staff has two components, one which is multiplied by Beta and one which is not. The Company maintains that, if his position that a security's Beta should not be applied to reduce the allowance for the risk of unexpected market-wide inflation is somehow wrong or "illogical," Staff should be able to explain why.

4. Staff Response

Staff acknowledged that T-bond yields are more likely than T-bill yields to reflect the inflation and real risk-free rate expectations that affect the prices of common stocks; however, Staff notes that Mr. Pregozen's statement was a probabilistic assessment of the issue, not a deterministic one (Staff Ex. 6 at 25). Staff notes that unlike Dr. Phillips, Mr. Pregozen tested whether T-bond yields more accurately reflect long-term inflation and real risk-free expectations than T-bill yields currently. Mr. Pregozen found that the former did not (Staff Ex. 6 at 26-27). Staff points out that Dr. Phillips acknowledged that T-bond and bill yields do not only differ because of differences in expected inflation, but that they also differ because of inflation rate risk. (Tr. 52).

Staff notes that the Company's claim that the CAPM requires that the risk-free rate and stocks be influenced by similar factors implies that the risk-free security should be risky since common stocks are risky. Staff contends that is obviously wrong, which implies that there are limits on the scope of "required" similarity. Staff states the CAPM does require that the risk-free rate reflect the inflation and real risk-free rate expectations embedded in common stock prices but nothing else. Staff claims that it certainly does not require that the risk-free security be risky (Staff Ex 12 at 11) or that the security that serves as the risk-free rate proxy have the same term to maturity of the security being analyzed. Although Mr. Pregozen stated that "U.S. Treasury bond yields are more likely to incorporate the inflation and real risk-free rate expectations that drive, in part, the prices of common stocks than either U.S. Treasury notes or Treasury bills," that statement clearly indicates there are times the yields of Treasury securities that have shorter terms to maturity also possess such qualities (Staff Ex 6 at 25).

Regarding forecasts, Staff notes that Dr. Phillips also used forecasts of T-bond yields in his CAPM and risk premium analysis. Furthermore, Dr. Phillips offered no evidence that those forecasts were shared by investors. Therefore, Staff maintains the Company's criticism of Mr. Pregozen's use of forecasts to test T-bill and T-bond yields is hypocritical. Staff argues that whether WEFA and Blue Chip forecasts of inflation reflect investors' expectations is unimportant compared to whether their implied estimates of the nominal risk-free rate are accurate because the CAPM requires a nominal risk-free rate as an input, not an inflation rate (Staff Ex 6 at 21-22). In this

area, Mr. Pregozen presented supporting evidence. The nominal risk-free rate, calculated by removing the 1.4% historical realized premium for interest rate risk from the 6.62% U.S. Treasury bond yield equals approximately 5.2% which is very close to the implied WEFA and Blue Chip estimates of 4.9%-5.0% (Staff Ex 6 at 27 and fn. 26).

Staff maintains that Dr. Phillips' testimony contradicts the Company's argument that the risk for unexpected inflation ("inflation risk") is present in all securities with the same term in the same amount rather than security-specific, and thus, that a risk premium for unexpected inflation should be included in the risk-free rate (CIWC In. Br. 31-32). First, Dr. Phillips agreed that CIWC's common stockholders will reap the gains from any rate increase in this proceeding rather than its bondholders (Tr. 66). Staff maintains that this implies that utility stock holders are less affected by unexpected inflation than utility bond holders since the former has recourse to regulatory-sanctioned rate increases. Second, Dr. Phillips admitted that if common stocks and T-bonds had the same exposure to inflation risk, their returns would move in a one-to-one, lock step manner (Tr. 50-51). However, Dr. Phillips' risk premium analysis demonstrates that expected returns on utility common stocks and T-bond yields do not move in such a manner. Specifically, expected returns on utility common stocks do not change as much as U.S. Treasury bond yields, confirming that they are less exposed to inflation risk (CIWC Ex. 6.0 at 23-24). Third, Dr. Phillips could not cite any publication that states the risk-free rate includes a risk premium for unexpected inflation (Tr. 56). In contrast, a textbook Dr. Phillips cited in his testimony explicitly states that the risk-free rate includes a premium for expected inflation. However, that text does not include a risk premium for unexpected inflation in the risk-free rate (Tr. 57-59). Fourth, Dr. Phillips agreed that the inflation risk is a systematic risk and that beta measures systematic risk (Tr. 53-54). In the CAPM, beta is multiplied with the market risk premium (Staff Ex 6 at 21-22). Thus, given that inflation risk is a systematic risk, it follows that the inflation risk premium must be included in the CAPM's market risk premium rather than its risk-free rate parameter.

5. Commission Conclusion

For the reasons given by the Staff, the Commission concludes that Mr. Pregozen's decision to discard the CAPM result based on T-bonds of 11.11% is appropriate and supported by substantial evidence. The Commission agrees with Staff's position that T-bonds incorporate within their yields a premium for interest rate risk that causes those yields to overstate the long-term risk-free rate. We find Dr Phillips' testimony on this issue to be self-contradictory and not supported with substantial fact. Although short and long-term expectations of the real risk-free rate and inflation might differ, we find that Mr. Pregozen's test of the current difference in those expectations is reasonable and we agree with his conclusion that they are currently similar. Therefore we accept Staff's position that T-bill yields currently are the better estimate of the risk-free rate used in the CAPM.

F. Flotation Cost

As discussed above, Dr. Phillips adjusted the results of the methodologies he employed to reflect costs incurred by the proxy companies in connection with the issuance of common equity capital. As he explained, each of the proxy companies has incurred issuance expenses. In the last thirteen years, six of the eight proxy water utilities had eleven issuances of new common stock, with issuance and selling expenses ranging from 3.47% to 7.58%, with an average of 5.81%. Thus, CIWC contends that the 5% adjustment proposed is well within the range of costs actually incurred.

Mr. Pregozen argues that the adjustment proposed by Dr. Phillips should be rejected because CIWC's common equity flotation costs are observable, therefore, there is no need to estimate them by proxy. Moreover, Dr. Phillips failed to demonstrate that the 5% flotation cost translates into a thirty-basis point adjustment to the cost of common equity. Staff maintains that CIWC actual flotation costs amount to a one basis point adjustment. (Staff Ex. 6 at 32).

For the reasons given by Staff, Dr. Phillips' proposed allowance for flotation cost should be rejected. Moreover, any actual borrowing by CIWC would be from its parent. Dr. Phillips indicated that, if the Commission were to reject the flotation cost adjustment he proposed, his recommended common equity cost rate would be reduced by 29 basis points to 10.96%. As Dr. Phillips stated, this result would be net of the .01% flotation cost adjustment recommended by Mr. Pregozen.

G. Dr. Phillips' Risk Premium Analysis

Staff criticizes the risk premium analysis performed by Dr. Phillips on the ground that the study he relied on found that the equity risk premium varied "even when interest rates did not change." In other words, the equity risk premium depends on time as well as interest rates. Mr. Pregozen testified that since the relationship between interest rates and time is not predictable, the model is not useful (Staff Ex 6 at 39). Staff also points out that his risk premium study considered data for electric utilities rather than Dr. Phillips' sample water utilities. Moreover, Dr. Phillips failed to demonstrate that the electric utilities included in his risk premium analysis are comparable in risk to CIWC. Staff points out that this is the same argument that the Company made against the "Florida Leverage Graph Analysis" Mr. Smith presented. Specifically, the Company noted that in the "Florida Leverage Graph Analysis" Mr. Smith did not show that the utilities used in that sample were similar in risk to CIWC. The Company contends that the study actually found, "a statistically inverse relationship between interest rates and utility equity risk premiums." Dr. Phillips also noted that Staff's criticism of the fact that the risk premium study involved electric utilities is surprising in light of the fact that Staff focused primarily on such companies in applying its traditional DCF and CAPM approaches. Staff replies that a showing that

some electric utilities are comparable in risk to CIWC does not mean that all electric utilities are comparable in risk to CIWC.

For the reasons described by Staff, the Commission concludes that Dr. Phillips risk premium approach is inappropriate for establishing CIWC's cost of common.

H. The "Florida Leverage Graph"

As indicated above, Mr. Smith, did not explain the Florida Leverage Graph or otherwise support his reference to that procedure. Accordingly, CIWC maintains that his reference should be disregarded. Dr. Phillips, however, also provided additional evidence regarding the flaws which led this Commission to reject use of the Florida Leverage Graph in Docket 94-0270.

As Dr. Phillips indicated, the leverage graph methodology is based upon a number of assumptions: "business risk is similar for all water and wastewater utilities; the cost of equity is an exponential function of the equity ratio; the marginal weighted average cost of investor capital is constant over the 40 percent to 100 percent equity ratio range; and the cost rate at an assumed Moody's Baa3 bond rating, plus 25 basis points, is representative of the average marginal cost of debt to a Florida water and wastewater utility over a 40 percent to 100 percent equity ratio range." Whether these assumptions apply to Florida utilities, Mr. Smith has not demonstrated that they apply to CIWC.

As Dr. Phillips also indicated, the cost of equity resulting from the leverage graph process is arrived at by averaging the results of three methodologies: (i) two DCF cost of equity estimates for an index of water utilities; (ii) a risk premium cost of equity estimate for an index of natural gas utilities (less 24 basis points); and (iii) a CAPM analysis. The water utility index is comprised of six companies, and there has been no showing that these companies are comparable to CIWC. For its DCF analysis, the leverage graph process uses an annual DCF model, not the quarterly DCF model long used by this Commission. Accordingly, the process fails to recognize the fact that dividends are paid quarterly. No rationale is given for using natural gas utilities in attempting to estimate a cost of equity for water utilities. Also, no analysis is undertaken to show any comparability between the water utility index and the natural gas utility index. Mr. Smith did not dispute any of these points. Accordingly, the Company maintains that the Commission, as in Docket 94-0270, should reject reliance on the leverage graph.

For the reasons given by the Company, and generally supported by Staff, we reject consideration of the Florida leverage graph. As stated in Docket 94-0270 (Order at 79), the Florida leverage graph formula "is so deficient in terms of meaningful analysis of company specific risk factors that the Commission rejects it, even as a method of ballparking individual analyses."

I. Exceptions

Staff's exceptions, in part, sought to clarify or explain in greater detail its position on the various cost of capital issues. In particular, Staff arguments on Dr. Phillips' risk premium approach are well-founded, based on sound financial theory, and have caused a change in the cost of capital summarized below.

Many of CIWC's exceptions to the Proposed Order center around the rejection of Dr. Phillips' "modified" DCF approach. In general, the Company contends that the "modified" DCF should be considered along with the results of Dr. Phillips' other methodologies. The Company further contends that the "traditional" DCF approach results in an understatement of ROE when the market value is greater than book value. The Company points out that, in setting rates, the Commission cannot assume that a portion of the investor-required return on investment will be provided by non-utility sources. The Company maintains that the fact that traditional DCF results decline as stock prices increase is simply the mathematical outcome of the DCF formula. The Company contends that the Proposed Order disregards the dispute on this issue, which is over Staff's position that the Commission can properly assume that other sources of revenue, such as non-utility revenues, will make up the resulting revenue deficiency. As far as the Company is aware, every regulatory commission other than Illinois which has considered the matter has recognized that the problem identified by Dr. Phillips exists.

J. Summary

For the reasons discussed above, the Commission rejects the analysis of Company witness Phillips, which is based primarily on the "modified" DCF and risk premium methods with which we have found deficient. Moreover, he improperly based his CAPM on T-bonds, which overstate the risk-free rate.

For the reasons given by the Staff, the Commission adopts the recommendation of Mr. Pregozen. The Commission concludes that Mr. Pregozen's recommendations are consistent, based upon the valid application of sound financial theory, and should be adopted for use in this proceeding. Accordingly, our findings are as follows:

Capital Component	Amount	Ratio	Cost	Weighted Cost
Short-Term Debt	686,458	0.95%	6.72%	0.06%
Long-Term Debt	35,162,404	48.55	8.85	4.30
Preferred Stock	398,777	0.55	5.52	0.03
Common Equity	36,173,871	49.95	10.06	5.02
Total	72,421,510	100.00%		9.41%